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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,903	03/23/2004	Hyunwoo Cho	5649-1216	2404
20792 7590 11/16/2007 MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			EXAMINER AJAYI, JOEL	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,903	Applicant(s) CHO ET AL.	
	Examiner Joel Ajayi	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Applicant's amendment filed on October 09, 2007. **Claims 1-33, 35, and 36** are still pending in the present application. **This action is made FINAL.**

Response to Arguments

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn in order to clarify the order of claim rejections.

Applicant's arguments filed October 09, 2007 have been fully considered but they are not persuasive.

The argument features that the components that constitute the mode switcher are not part of the mobile station.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao discusses that the signal processing unit (data processor) of the mobile station converts the digital signal input into baseband signals (paragraph 63, lines 1-6), the switching controller (control unit) uses this signals to synchronize the mobile station with the base station (access point) (paragraph 67, lines 1-5); at the synchronized state, the switching of the modes take place (paragraph 29).

The argument features that fig. 6 depicts the structure of a prior art wireless terminal, whereas the rejection is based on fig. 10.

The examiner respectfully disagrees with the applicant's statement and asserts that fig. 6 and fig. 10 disclose the same information with respect to the components of a mobile station.

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Fig. 10 has multiple components e.g. 2 receivers and transmitters, to efficiently use more radio frequency resources (paragraph 28).

The argument features transmitting data associated with a first application over a first communications channel, while transmitting control signals associated with that application over the second communications channel.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao discusses multi-media applications such as the Internet and email that use uplinks and downlinks on multiple channels/links depending on the data volume (paragraph 22; paragraph 58, lines 1-6).

In view of the above, the rejections using Takao and Takayama are maintained as repeated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5-7, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**.

Consider claim 1; Takao clearly discloses a wireless terminal comprising: a data processor (signal processing unit) (paragraph 61, lines 3-6); at least one control unit (the switching controller is used to synchronize the mobile station with the base station, which in turn leads to the use of the various communication modes) that is responsive to the data processor (the switching controller is responsive to the signal processing unit because the signal processing unit provides the baseband signals that will be used by the switching controller) and that controls communications with an access point (base station) over a first communications channel and over a second full-duplex communications channel (uplink and downlink) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); a first interface between the at least one control unit and the first communications channel (communication mode) (paragraph 5, lines 1-13; paragraph 29, lines 1-

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17); and a second interface between the at least one control unit and the second communications channel (another communication mode) (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Takao fails to disclose communicating over a wireless local area network.

In the same field of endeavor Takayama discloses communicating over a wireless local area network (paragraph 32).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Takayama into the method of Takao in order to provide efficient communication between a mobile station and an access point in a WLAN environment.

Consider **claim 2**; Takayama discloses that the at least one control unit comprises a MAC control unit (paragraph 41, lines 5 and 6).

Consider **claim 3**; Takao discloses a traffic control unit (the switching controller is used to synchronize with the base station, which eventually leads to the switching of modes) (paragraph 67, lines 1-5) that is responsive to the data processor (signal processing unit) (paragraph 63).

Consider **claim 5**; Takayama discloses that the at least one MAC control unit also includes a traffic control unit that forms a data transmission route for each of a plurality of applications running on the wireless terminal (paragraph 43).

Consider **claim 6**; Takao discloses that the first channel comprises a half-duplex channel (downlink) that only carries data from the access point to the wireless terminal (paragraph 29, line 11).

Consider **claim 7**; Takao discloses that data associated with a multi-media application is transmitted over the first channel (paragraph 22 and 29).

Consider **claim 9**; Takao discloses that data associated with a first application running on the wireless terminal is transmitted to the wireless terminal over the first communications channel (downlink), and wherein at least some of the control signals associated with the first application are transmitted from the wireless terminal to the access point (uplink) over the second communications channel (paragraph 22 and 29).

Consider **claims 10, 13**; Takayama discloses that the wireless local area network operates at least in part under the IEEE 802.11 standard (IEEE 802.11 term refers to the family of standards) (paragraph 53, lines 7-14).

Consider **claim 11**; Takayama discloses that the first communications channel and the second communications channel are implemented in different frequency bands (paragraph 10).

Consider **claim 12**; Takao discloses that the first and second communications channel are implemented using different multiple access techniques (WCDMA and ACDMA) (paragraph 27 and 28).

Claims 14-18, 22, 24-28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent Application Number: 2004/0073361)**.

Consider **claim 14**; Takao clearly discloses a wireless communications system, comprising: a wireless terminal (mobile station) that transmits and receives data (paragraph 29); an access point (base station) that serves as an interface between the wireless terminal and at

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least one processing server that is located on at least one external network (paragraph 22, lines 1-11; paragraph 29, lines 1-17); a first communications channel between the wireless terminal and the access point for transmitting data associated with the first application from the access point to the wireless terminal (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and a second communications channel between the wireless terminal and the access point for transmitting data associated with the second application between the wireless terminal and the access point (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Takao fails to disclose that the first and second applications are running simultaneously on the wireless terminal.

In the same field of endeavor Tzamaloukas discloses that the first and second applications are running simultaneously on the wireless terminal (the application program consists of programs that run simultaneously) (paragraph 35 and 37).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claim 26**; Takao clearly discloses the method comprising: receiving at the wireless terminal (mobile station) over a first communications channel between the wireless terminal and an access point (base station) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); establishing a transmission path between the wireless terminal and the access point over a second communications channel (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and transmitting

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data over the second communications channel via the transmission path (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Takao fails to support a plurality of applications on a wireless terminal.

In the same field of endeavor Tzamaloukas clearly discloses transmitting and receiving data from a plurality of applications (paragraph 35 and 37).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claim 15**; Takao discloses that the second communications channel is further used to transmit control information associated with the first application from the wireless terminal to the access point (paragraphs 22 and 29).

Consider **claim 16**; Takao discloses that the first communications channel is further used to transmit control information associated with the first application from the wireless terminal to the access point (paragraph 29).

Consider **claim 17**; Takao discloses that the throughput of the first communications channel exceeds the throughput of the second communications channel (paragraph 58, lines 1-6).

Consider **claim 18**; Takao discloses that the wireless terminal comprises: (signal processing unit) (paragraph 61, lines 3-6); at least one control unit (the switching controller is used to synchronize the mobile station with the base station, which in turn leads to the use of the various communication modes) that is responsive to the data processor (the switching controller is responsive to the signal processing unit because the signal processing unit provides the

baseband signals that will be used by the switching controller) and that controls communications with an access point (base station) over a first communications channel and over the second communications channel (uplink and downlink) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); a first interface between the at least one control unit and the first communications channel (communication mode) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and a second interface between the at least one control unit and the second communications channel (another communication mode) (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Takao fails to disclose a MAC control unit that is responsive to the data processor.

In the same field of endeavor Tzamaloukas discloses a MAC control unit that is responsive to the data processor (paragraph 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claim 22**; Takao discloses that the first channel comprises a unidirectional channel that only transmits data from the access point to the wireless terminal (downlink) (paragraph 29, line 11).

Consider **claim 24**; Takao discloses that at least some of the control signals associated with the first application are transmitted from the wireless terminal to the access point over the second communications channel (paragraph 29).

Consider **claims 25**; Takao discloses that the access point and the wireless terminal communicate (paragraph 29). Tzamaloukas discloses that communication takes place at least in part under the IEEE 802.11 standard (paragraph 15, lines 26-28).

Consider **claim 27**; Takao discloses transmitting data associated with the first of the plurality applications over the second communications channel via the transmission path (paragraph 22 and 29).

Consider **claim 28**; Takao discloses that transmitting control data associated with the first of the plurality applications from the wireless terminal to the access point over the first communications channel (paragraph 29).

Consider **claim 30**; Takao discloses that the first communications channel is a high throughput uni-directional communications channel (paragraph 58, lines 1-4).

Claim 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**, and further in view of **Ota et al. (U.S. Patent Number: 6,115,615)**.

Consider **claim 4**; Takao and Takayama fail to disclose that the at least one MAC control unit comprises a first MAC control unit for controlling communications with the access point over the first communications channel and a second MAC control unit for controlling communications with the access point over the second communications channel.

In the same field of endeavor Ota discloses that the at least one MAC control unit comprises a first MAC control unit for controlling communications with the access point over

the first communications channel and a second MAC control unit for controlling communications with the access point over the second communications channel (column 9, lines 10-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ota into the method of Takao and Takayama in order to effectively and efficiently switch transmission routes of a packet.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**, and further in view of **Medlock et al. (U.S. Patent Application Number: 2002/0062472)**.

Consider **claims 8**; Takao and Takayama fail to disclose that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel.

In the same field of endeavor Medlock discloses that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel (paragraph 30, lines 1-17).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Medlock into the method of Takao and Takayama in order to provide an apparatus and a method for preparing data for transmitting from a communication device.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al.** (U.S. Patent Application Number: 2002/0173277) in view of **Tzamaloukas et al.** (U.S. Patent Application Number: 2004/0073361), and further in view of **Du** (U.S. Patent Number: 6,480,480).

Consider **claim 19**; Takao and Tzamaloukas fail to disclose that the access point comprises: a second data processor; at least one access point MAC control unit that is responsive to the second data processor and that controls communications with the wireless terminal over the first communications channel and over the second communications channel; a third interface between the at least one access point MAC control unit and the first communications channel; and a fourth interface between the at least one access point MAC control unit and the second communications channel.

In the same field of endeavor Du discloses that the access point (column 9, lines 40-43) comprises: a second data processor (column 3, lines 40-43); at least one access point MAC control unit that is responsive to the second data processor and that controls communications with the wireless terminal over the first communications channel and over the second communications channel (column 3, lines 40-67); a third interface between the at least one access point MAC control unit and the first communications channel; and a fourth interface between the at least one access point MAC control unit and the second communications channel (column 3, lines 40-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Du into the method of Takao and

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Tzamaloukas in order to maintain communication between terminals even in the case of a failure of a component.

Consider **claim 20**; Du discloses the wireless terminal further comprises a first traffic control unit that is responsive to the data processor, and wherein the access point further comprises a second traffic control unit that is responsive to the second data processor (column 3, lines 40-67).

Claim 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent Application Number: 2004/0073361)**, and further in view of **Ota et al. (U.S. Patent Number: 6,115,615)**.

Consider **claim 21**; Takao and Tzamaloukas fail to disclose that the at least one MAC control unit comprises a first MAC control unit for controlling communications with the access point over the first communications channel and a second MAC control unit for controlling communications with the access point over the second communications channel.

In the same field of endeavor Ota discloses that the at least one MAC control unit comprises a first MAC control unit for controlling communications with the access point over the first communications channel and a second MAC control unit for controlling communications with the access point over the second communications channel (column 9, lines 10-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ota into the method of Takao and Tzamaloukas in order to effectively and efficiently switch transmission routes of a packet.

Claims 23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent Application Number: 2004/0073361)**, and further in view of **Medlock et al. (U.S. Patent Application Number: 2002/0062472)**.

Consider **claims 23 and 29**; Takao and Tzamaloukas fail to disclose that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel.

In the same field of endeavor Medlock discloses that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel (paragraph 30, lines 1-17).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Medlock into the method of Takao and Tzamaloukas in order to provide an apparatus and a method for preparing data for transmitting from a communication device.

Claims 31-33, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent**

Application Number: 2004/0073361), and further in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**.

Consider **claim 33**; Takao clearly discloses a wireless terminal (mobile station) for transmitting and receiving data (paragraph 5, lines 1-13; paragraph 29, lines 1-17); an access point (base station) interfaced with an external processing server (paragraph 5, lines 1-13; paragraph 22, lines 1-11; paragraph 29, lines 1-17); and a plurality of wireless channels for transmitting and receiving the data (paragraph 5, lines 1-13; paragraph 29, lines 1-17); wherein the plurality of wireless channels have different throughputs (paragraph 58, lines 1-6) and wherein the second application (homepages uploaded in servers) is remote from the wireless terminal (paragraph 22, lines 1-11; paragraph 29).

Takao fails to disclose transmitting and receiving data from a plurality of applications.

In the same field of endeavor Tzamaloukas clearly discloses transmitting and receiving data from a plurality of applications (paragraph 35 and 37).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Takao and Tzamaloukas fail to disclose that the wireless channels operate in different frequency bands.

In the same field of endeavor Takayama discloses that the wireless channels operate in different frequency bands (paragraph 10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Takayama into the method of Takao and Tzamaloukas in order to provide efficient communication between a mobile station and an access point in a WLAN environment.

Consider **claim 31**; Takao and Tzamaloukas fail to disclose that the wireless local area network operates at least in part under the IEEE 802.11 standard.

In the same field of endeavor Takayama discloses that the wireless local area network operates at least in part under the IEEE 802.11 standard (IEEE 802.11 term refers to the family of standards) (paragraph 53, lines 7-14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Takayama into the method of Takao and Tzamaloukas in order to provide efficient communication between a mobile station and an access point in a WLAN environment.

Consider **claim 32**; Takao discloses that the first application is a multi-media application (paragraph 22).

Consider **claim 36**; Takao discloses the plurality of wireless channels (links) (paragraph 29). Tzamaloukas discloses that communication takes place at least in part under the IEEE 802.11 standard (paragraph 15, lines 26-28).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent Application Number: 2004/0073361)**, further in view of **Takayama et al. (U.S. Patent**

Application Number: 2002/0025810), and further in view of **Medlock et al. (U.S. Patent Application Number: 2002/0062472)**.

Consider **claim 35**; Takao, Tzamaloukas, and Takayama fail to disclose that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel.

In the same field of endeavor Medlock discloses that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel (paragraph 30, lines 1-17).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Medlock into the method of Takao, Tzamaloukas, and Takayama in order to provide an apparatus and a method for preparing data for transmitting from a communication device.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday 7:30am to 4:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Joel Ajayi


CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER